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A study of a tutoring program to benefit tutors and tutees.

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A STUDY OF A TUTORING PROGRAM TO BENEFIT TUTORS AND TUTEES

A Dissertation Presented

By

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TABLE OF CONTENTS

LIST OF TABLES

List of Tables--continued

LIST OF FIGURES

CHAPTER I

PURPOSE OF STUDY

Introduction

School administrators are continually urged to adopt new programs, such as individualized instruction, team teaching, flexible scheduling, and tutoring. These programs are favorably written about in current professional books and magazines. Decisions are made on the basis of these articles. Too often, as Rosenshine and Furst (1969b) found in their study of tutoring, the articles are merely subjective testimonials with little or no statistical data available to support the claims. Administrators, in order to make valid decisions, need statistical evidence not personal opinions.

This study, using unpaid, school-age tutors was undertaken to examine the highly praised educational practice of tutoring (Thelen, 1968). In the abstract, tutoring appears to be a worthwhile educational practice for several reasons.

First, tutoring individualizes instruction. The tutor starts where the tutee is and the reduction-expansion cycle takes place, that is, the tutor expands the tutee's knowledge based on the tutee's responses (Olver, 1966). Closely related to this is the fact that

tutoring allows for feedback to both the tutor and the tutee. The tutee knows immediately if his answer is correct and thereby receives positive reinforcement, an important concomitant to learning (Angell, 1949; Skinner, 1954). The tutor also receives immediate feedback and knows if his explanation is understood or has to be revised. The teacher lecturing in the classroom does not have this advantage.

Tutoring lessens the expectation of failure. With each experience of success, the tutee is less inhibited by a fear of failure (Mussen & Kuhlman, 1966). At the same time, tutoring provides a social situation whereby the tutee learns to cope with failure. Any humiliation provoked by failure is kept at a minimum (Kagan, 1966). In the classroom, the child's embarrassment is greater because of fear of his peers' reactions.

In addition, tutoring affords an opportunity for social interaction and reduces the superordinate-subordinate relationship of teacher and learner. No longer is the learner the passive observer of the classroom, but rather he becomes the active participant of the tutoring situation. Again, the tutor benefits from this as well, for he gains a sense of competence and selfworth by realizing that his teaching has been understood (Henle, 1966). Tutoring is a cooperative venture and fosters cooperation rather than competition. Teachers need to take note of the hypothesis that competition generates hostility

(Sherif, Harvey, White, Hood, & Sherif, 1961).

One of the greatest advantages of tutoring is the fact that it provides an excellent opportunity for language development. The importance of oral language in the development of intelligence and reading has been pointed out by Deutsch (1967). In the classroom situation the child usually has few opportunities to speak.

Finally, from a pragmatic viewpoint, tutoring should be considered because it is less expensive than other methods to achieve the same results. School-age tutors are readily available free of cost.

Problem

Based on the above stated reasons, tutoring would appear to be sound. But abstractions must be backed up by experimentation. The problem of the study is: Does tutoring benefit the tutor and tutee? Specifically, the experiment is designed to investigate whether the independent variable of tutoring has an effect on the dependent variables of reading scores, grades, behavior, interests and attitudes, social acceptance, and school attendance.

Independent variable. The independent variable, tutoring, refers to a planned series of meetings between two children of different ages, in which the older child teaches the younger one. In this study, an oral language approach was the method used to teach. This

approach is explained in Chapter II.

Dependent variables. Reading scores--the scores received on the Gates-MacGinitie Reading Tests.

Grades--the marks on the children's report cards based on the letters A-B-C-D-E-F, where A is excellent and E and F are failure.

Behavior--conduct in regard to kindness, politeness, conformity, and self-control.

Interests and Attitudes--how one feels about school, how one spends his time and money outside of school, what television programs are enjoyed, what are one's future plans.

Social acceptance--the acceptance or neglect of children by their peers.

School attendance--the number of days present as indicated by school register.

Hypotheses

The two major hypotheses of the study were:

1. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the reading scores of the tutors, as measured by the Gates-MacGinitie Reading Test.
2. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the reading

scores of the tutees, as measured by the Gates-MacGinitie Reading Test.

The ten minor hypotheses of the study were:

3. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the grades of the tutors.
4. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the grades of the tutees.
5. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the behavior of the tutors by increasing kindness, politeness, conformity, and self-control. (See Appendix for Behavior Evaluation.)
6. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the behavior of the tutees by increasing kindness, politeness, conformity, and self-control.
7. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the interests and attitudes of the tutors, as described in the Inventory of Interests and Attitudes. (See Appendix.)
8. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the interests

and attitudes of the tutees, as described in the Inventory of Interests and Attitudes.

9. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, increases the social acceptance of the tutors, as measured by Sociometric Choices. (See Appendix.)

10. The use of older underachieving boys to tutor younger underachieving boys using an oral language approach, increases the social acceptance of the tutees, as measured by Sociometric Choices.

11. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the school attendance of the tutors.

12. The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the school attendance of the tutees.

The investigator chose to use boys in the study to better test the effectiveness of tutoring. As Cardon (1968) pointed out in his review, girls tend to do better in school than boys. Therefore, the use of girls in the tutoring project would have weakened the implications of the study. "Underachieving" refers to those children who manifest behavior problems and/or low marks.

An oral language approach was chosen primarily because of its intrinsic value. For example, Deutsch (1965) stresses the need for the

school to provide more language training:

> If language cannot be used as an elaborating form of communication, school loses much of its socializing and teaching capabilities, regardless of the curriculum content.
>
> . . . . . .
>
> language becomes an effective tool only when it has adequate feedback properties in communicating with peers or others... [p. 87] .

Also, an oral language approach was chosen because of its practicality. It is easy to explain to tutors. It is inexpensive. Blackboards are not used. No equipment is needed other than chairs. Therefore, tutoring can take place almost anywhere in the school.

By this study, the investigator set out to test empirically if tutoring makes a significant difference for both the tutor and the tutee. In addition, the investigator planned to develop the mechanics of a simple tutoring program that could be used in the schools.

Review of the Literature

There are many tutoring programs being carried out at the present time (Thelen, 1969). Two popular types are the Youth Tutoring Youth programs developed by the National Commission on Resources for Youth (1969) and the Cross-Age Helping Programs developed by Eiseman and Lippitt (1966). As yet, neither group offers statistical data to support the stated benefits of tutoring. Correspondence from Kavanagh (1970) of the National Commission on Resources for Youth

indicated that an evaluation will be completed in June of 1971.

Few experimental studies have been carried out to test hypotheses concerning tutoring (Rosenshine & Furst, 1969a). Rosenshine and Furst (1969b) conducted a comprehensive review and analysis of studies relating to tutoring and found only fifteen studies which reported objective data. (This investigator has kept in contact with Furst's assistant, McMonagle, at Temple University for clarification of the review and subsequent information.) The review was undertaken because the authors, Rosenshine and Furst, had conducted two tutoring studies which had yielded null results (Rosenshine & Furst, 1969a: Furst, Rosenshine, & Mattleman, 1970). Yet, colleagues, teachers, parents, and principals all claimed that tutoring was successful.

Of the fifteen studies cited, seven were classified as unsuccessful in that none of the measurements showed any significant statistical differences. Eight of the studies were classified as successful in that a tutoring objective had been achieved. Only five of the fifteen studies reported data on the effects of tutoring on school-age tutors and in four of the programs, the tutors were paid.

The investigator of the present study was concerned only with projects that used unpaid school-age tutors rather than adult tutors. This study was set up to gather evidence to support the belief that tutoring is a reciprocal process which benefits both parties, tutor as

well as tutee. Therefore, both parties should be in need of the benefits which tutoring might impart. While adults might be in need of the hypothesized benefits and therefore, benefit as tutors, the school's first responsibility is to help children. The investigator had hoped to find studies in which the school-age tutors were not paid. She believes that one of the important aspects of the tutoring situation is the fact that the older child willingly spends his time with the younger child. The younger child knows from experience that he is usually ignored by older children. Therefore, the tutee gains a sense of worth when he realizes that the tutor is interested in him and helps him without receiving a reward. This aspect is just as important for the tutor's growth. The helping relationship is the tutor's incentive rather than money. The investigator sees tutoring as a natural part of the school day and as such, tutoring for pay would not be appropriate.

Of the five studies cited by Rosenshine and Furst (1969b) which used school-age tutors, only two have relevance to this investigation (Cloward, 1967; Hassinger & Via, 1969). Lundberg's study (1968) concerned tutoring of high school peers. Lehmann's study (1969) of the South-Western City School District relied heavily on subjective evidence. This is the one study cited which did not pay the school-age tutors. Grannick's study (1968) is no longer available.

Hassinger and Via (1969) conducted a tutorial program in which one hundred high school aged tutors were paid to work, on a one to one

basis with fourth, fifth and sixth graders who had reading disabilities. The tutoring covered a period of six weeks. To be designated as a tutor, the teen-ager had to come from a low income family, be two or three years retarded in reading, and/or have two or more "D" or "F" grades and poor school attendance. Drop-outs and unemployed graduates were also used. The tutors received sixteen hours of preservice training. They were evaluated by the use of a pre- and post- Nelson Denny Reading Test. The mean gain was eight months. During the six weeks the tutors improved in their personal grooming. The tutees were evaluated by a pre- and post- Stanford Reading Test. The mean gain was 4.6 months. No control groups were used.

A follow-up article on this tutorial project by Landrum and Martin (1970) indicated that comparable gains were achieved during the second summer of the project. The article claimed that although a follow-up study of the tutors was not conducted, data is available that makes it apparent that the tutor is more apt to attend school regularly, obtain passing grades and complete high school than students with similar problems who do not have the tutoring experience.

A somewhat better designed study was the Mobilization for Youth Program as reported by Cloward (1967). Tenth and eleventh grade students from low income homes were paid to tutor, on a one to one basis, fourth and fifth grade pupils with below grade level reading achievement. The study covered a period of seven months. The tutors

received preservice training consisting of eight afternoon sessions. The guidance counselor in each elementary school screened out pupils with various bahavioral problems, mentally retarded children, and children with long histories of truancy. Pupils were then randomly assigned to experimental and control groups. Some children received two hours of tutoring per week, while the rest received four hours of tutoring per week. The pupils' reading achievement, before and after, was measured with the New York Tests of Growth in Reading.

The experimental group which received four hours a week of tutoring averaged a six months gain, whereas the control group averaged only a three and a half months gain. The difference between the means was significant at the .05 level. The experimental group which received two hours of tutoring a week averaged a five months gain. The difference of the means between this group and the control group was not significant. Cloward concluded that tutorial assistance needed to be given as often as four hours a week for at least twenty-six weeks.

In addition to the reading test, the pupils' school marks were collected for two years, pre and post. Differences were tested using Chi Square. None of the differences were significant. Also, differences in absences and tardinesses were not significant. Pre and post data on pupil attitudes and aspirations were gathered from a forty-four item

questionnaire. None of the Chi Square comparisons were significant. One significant finding of the study was that black children showed high gains in reading when matched to their tutors in sex and ethnicity.

The tutors and their control group were pre and posttested with the Advanced Level of the Iowa Silent Reading Test. The tutors showed significantly more improvement than the controls. Changes in attitudes and aspirations were measured through a fifty-four item questionnaire. None of the comparisons were statistically significant. The control subjects were paid five dollars for taking part in the testing program.

Because Cloward found evidence that tutoring benefited the tutors, he conducted another study (undated) to refute the common assumption that academic success and tutorial effectiveness are positively correlated and therefore, tutors should be chosen on the basis of their high academic standing. The intellectual status of the tutors was measured by the Quick Word Test. Their academic achievement was measured by grades, grade level and prestudy reading skill based on the Iowa Silent Reading Test. The personality characteristics of the tutors were measured by the Multi-level Research Questionnaire. The tutees' reading achievement was measured by the New York Tests of Growth in Reading. Analysis of the data lent no support to the assumption that high intellectual ability was positively correlated with

effectiveness. Tutors with lower than average intellectual status were just as effective.

Although Ellson (1969) used adult tutors, his study using programmed tutoring is of interest. The programmed tutoring was a highly structured procedure to improve reading carried out by non-professionals. Control groups were used. The results were significant in favor of the experimental groups at the .05, .01, .02, and .001 levels.

The investigator found no study which adequately measured the effects of tutoring on unpaid school-age tutors. The few studies which did measure the effects of tutoring on paid school-age tutors showed that the benefits were significant in reading but not in other areas. In these studies, the tutees also benefited significantly on improved reading scores. Much more research on tutoring is needed.

CHAPTER II

DESCRIPTION OF STUDY

Location

The tutoring program took place at the Berlin Elementary School in Berlin, Vermont. Berlin, a six square mile area in Central Vermont, has a population of two thousand. It is adjacent to the twin cities of Barre and Montpelier, the state capital. Each city has a population of ten thousand. Located in Berlin are the central Vermont airport, hospital, and regional library as well as a large shopping area. The majority of the people in Berlin work in the granite industry or are employed in the State offices in Montpelier. Their recreational interests include hunting, skidooing, and bowling. There is no high school in Berlin and the parents must provide the transportation for their children to attend surrounding high schools (Neaveau, 1969).

The Berlin Elementary School, housing grades 1-8, opened in September of 1969, replacing four small wooden structures. One of the buildings is located across the road from the new school and is now used for shop, home economics, and kindergarten classes. The new school, located on twenty-five acres of land, is a one level structure containing sixteen regular classrooms. Eight of the rooms are built around a

large carpeted learning center. The seventh and eighth grade classes are departmentalized. Over 95% of the children come to school by bus. For some, the distance covered is twenty miles each way, due to the fact that one section of Berlin lacks a direct road to the school and the bus must follow the main road into Montpelier in order to reach the road to the school.

Subjects

During the five months of the study, it was the opinion of the investigator that the children at the Berlin School had the same problems and showed the same types of behavior as did city children. Homes were splintered, children were neglected or pressured, and money was scarce. In the opinion of the investigator, the school had the typical problems of swearing, smoking, and stealing.

Many of the experiences of the Berlin School children were comparable to the experiences of city children. Hippies are just as familiar a sight in Vermont as in large cities. This is partly due to the influence of Goddard College, a small, private, rather unique school, located in Plainfield, about twelve miles from Berlin.

However, there are a few differences between the experiences of the Berlin children and city children, one being that the Berlin children have little contact with members of minorities. There is only

one Black child in the school. Few Blacks are seen in Vermont. Another difference is caused by space. City children often lack space in which to live and play, while country children have an abundance of it. Although it is much easier for a country child to have a pet, an abundance of space is a disadvantage at times. Friends are not close by and auxiliary services are not readily available. The school board in Berlin is presently considering scheduling a bus to take children to Burlington, forty miles away, for various diagnostic and treatment purposes.

In the opinion of the investigator, the principal of the Berlin School, Mrs. Christine Hutchins, is well qualified for her position. In the study, Mrs. Hutchins selected the tutors and tutees and paired them. She was requested to specify twenty-four boys from an upper and lower grade who were underachievers, "boys who were most in need of help, boys who were the worst behavior problems". The decision was made to use boys from the third and seventh grades. The seventh graders were divided into two divisions, 7A and 7B. The 7A division was made up of the brighter children. All the tutors came from the 7B division. The tutors told the investigator that they were in the dumb group and that their class did not have as much homework as the 7A class. Only the 7A class had French as a subject.

Mrs. Hutchins paired the youngsters using different criteria such

as: a quiet tutor with a hyperactive tutee or the reverse, a timid tutee with a quiet understanding tutor, a noisy and boisterous tutor with a noisy and boisterous tutee so that the tutor could see a mirror of himself and perhaps quiet down, a stable tutor with a poorly controlled tutee, and a pair with different cultural backgrounds. In a few cases, the tutors expressed a preference from the list of tutees.

Mrs. Hutchins also chose the locations for the tutoring sessions. Each tutoring pair usually met alone in an empty classroom, office, supply room, or hall. The only requirement for a tutoring location was that it was somewhat private and had enough room for two chairs. The principal even gave up her office for one pair. This did not last long because the tutor said that the principal's office was "too spooky". Most likely, any child would be ill at ease to be given the use of the principal's office. Mrs. Hutchins seemed to be well-liked and respected, particularly by the children with behavior problems. Her quiet talking was very effective. She was firm but understanding. One tutor brought her a bouquet of dandelions in appreciation saying, "They ain't much, but I put some ferns with them to make them look pretty". Another tutor asked her to go with him to return a shoplifted item.

Activities

The investigator directed all activities. The twelve tutors attended four preservice training sessions, each lasting half an hour. The sessions took place twice a week for two weeks. During these sessions, the tutors were taught techniques to use to encourage the younger children to talk. (See Appendix for Training Session Discussions and Oral Language Games.) The tutors were taught twenty oral language games which they had a chance to try out. They also role-played the tutoring situation and had an opportunity to discuss their apprehensions.

Each tutor was given a folder to use as a working kit. Each contained two notebooks, a magic slate, a paperback book, and a pen. In one notebook, the tutor recorded language games. In the other, he kept a log of each tutoring session. The tutor was asked to write down in the log the name of the book he read, the new word he taught, the games he played (by number), and his observations. Each tutor had a magic slate so that neither blackboard nor paper were necessary. The kits were passed out at the beginning of the session and collected at the end to prevent loss. The tutoring project was referred to as "SPI" for Student Pupil Instruction and the tutors monogrammed the initials to the covers of the kits.

Twice a week, for half an hour, the tutors worked with the tutees.

Each pair worked alone. During the session, each pair was checked on once to see if any problems existed. The tutors called for their tutees at their classroom and then returned them at the end of the half hour. The tutors then met with the investigator for fifteen minutes to fill in their logs, exchange paperbacks, discuss their experiences, and receive reinforcement to their preservice training.

If a tutor and a tutee were absent, their partners worked together. If a tutor was absent, another tutor had two tutees for that session. If a tutee was absent, his tutor worked with another pair. Possibly benefits of tutoring were lost by these arrangements. Some tutors liked working with two tutees. Some disliked it greatly after volunteering for it. It was not feasible to reschedule a tutoring session for an individual pair, although this might have been a better arrangement. Except for absences, the same pairing existed during the entire study.

The objectives of the tutoring sessions were to improve reading and modify behavior by developing oral language and self-confidence. Therefore, the tutors were given a format to follow. Ordinary conversation was encouraged. During each session, the tutor read to the child for ten minutes. Paperback books were provided, although either the tutor or tutee was free to choose any book. The tutor was also expected to teach a new word to his tutee each time. The tutor referred to this as an echo word for the tutee to remember at the next session.

The echo word idea was taken from Primer for Perception by Goldszer (1968). During the rest of the tutoring session, the tutor played some of the oral language games.

There was no formal teaching of phonics since this was a prerogative of a professional rather than an unskilled person. The investigator avoided the implication that the tutors' activity was being equated with the teacher's ability. Hopefully, the teacher would realize the value of an unskilled young helper, particularly one who did not cause her extra work. The teacher was not asked to provide any lessons or supplies, her blackboards were not used, nor was she expected to monitor the project.

Instrumentation

In the study, the investigator did not randomize the selection of the children. The treatment was to be given to those most in need of it. Campbell (1969) allowed for just such a situation in recommending the use of the regression discontinuity design. The design constitutes the use of regression analysis as a means to compare the relative change pattems of the subjects as compared to those of the class. Therefore, all the children in the third grade took part in the testing as well as all the children in the 7B class. The regression discontinuity design has been recommended for use in evaluating federal programs for the poor.

(Campbell, 1969; Jordan and Spiess, 1970) In these programs also, it is not possible or plausible to randomize. The treatment must be given to those most in need.

The instrumentation of the study was as follows:

Gates-MacGinitie Reading Tests (1965). Grade 3, Primary C, Forms 1 and 2, Comprehension; Grade 7, Survey E, Forms 1 and 3, Comprehension.

Reliability--Reliability was based on the testing of twelve hundred children for Primary C and seven hundred children for Survey E. Both alternate form and split-half reliability coefficients were established. For Primary C, the reliability coefficient ranged from .87--.91. For Survey E, the reliability coefficient ranged from .81--.94.

Validity-- No mention of validity is made in the manual. However, as Powell (1969) pointed out in his review of the tests; construct validity is suggested through the correlation between scores of pupils above Grade 3 on the Gates-MacGinitie and the Lorge-Thorndike Intelligence Tests. By implication, reading achievement as measured on the tests is related to, but different from Verbal IQ as measured by Lorge-Thorndike.

Grades. The marks received in academic subjects were compared by assigning numerical values to the letter grades as follows: A--4, B--3, C--2, D--1, E--0, F--0. (Grade 3 used E, Grade 7 used F.)

Behavior Evaluation. See Appendix. Teachers rated the children on kindness, politeness, conformity, and self-control using S for "Satisfactory" and N for "Needs Improvement". For computation purposes, S received a value of 1 and N received a value of 0.

Inventory of Interests and Attitudes. Eight questions were asked. See Appendix. Only the first answers were considered. An impartial judge compared the child's answer in May with his answer in January. An improved answer was given a plus. An answer that indicated regression was given a minus. No change in an answer received a zero.

Sociometric Choices. Two questions were asked. See Appendix. The number of children chosen from the treatment group was compared with the number of children chosen from the non-treatment group.

School Register. A comparison was made between the number of school days attended by the treatment group and the number of school days attended by the non-treatment group.

Statistical significance was accepted at the .05 level. In addition to the statistical tests, the tutors' logs were studied. After the project was finished, the tutors and the tutees filled out questionnaires concerning the tutoring program. See Appendix.

Schedule

1/5/70 -- 1/16/70. Pretesting of third and seventh graders on Gates-MacGinitie Reading Tests, Sociometric Choices, and Inventory of Interests and Attitudes. Teachers rated children on Behavior Evaluation. Grades and attendance were collected from the first semester. The preservice training sessions for the tutors were held on January 6, 9, 13, and 16.

1/19/70 -- 5/20/70. Twenty-eight tutoring sessions were held. Sessions were planned to be held twice a week, but because of storms, fieldtrips, and illness, this was not always possible. Sessions were actually held as follows: January 20, 27, 30; February 3, 5, 10, 13, 17, 20; March 10, 13, 17, 19, 24, 27, 31; April 2, 9, 16, 17, 30; May 1, 7, 8, 14, 15, 21, and 22.

5/25/70 -- 6/12/70. Posttesting of third and seventh graders on Gates-MacGinitie Reading Tests, Sociometric Choices, and Inventory of Interests and Attitudes. Teachers rated children on Behavior Evaluation. Grades and attendance were collected for the second semester. Tutors and tutees filled out questionnaires about the project.

CHAPTER III

RESULTS OF STUDY

In this chapter, all the data for Grade 7 will be analyzed first. Then the data for Grade 3 will be considered. There were twenty-four subjects in Grade 7, twelve tutors and twelve nontutors. The mean age of the tutors, as of January 20, 1970, was 13.0 years. The mean age of the nontutors was 13.1 years.

Reading scores (See p. 21.)

As seen in Table 1, the two groups were significantly different before and after treatment. The t value significant beyond the .01 level was found between the two groups both times.

TABLE 1

DIFFERENCES BETWEEN GROUPS
(Gates-MacGinitie Reading Test-Survey E)

	Pretest				Posttest			
Group	Mean	S	N	t	Mean	S	N	t
Tutors	37.50	7.98	12	2.68**	37.83	5.98	12	5.39**
Non-tutors	28.25	8.89	12	df=22	29.75	6.14	12	df=22

**p < .01

Table 2 indicated no significant change at the end of the treatment period for either the tutor group or nontutor group. The t value indicated that the groups were equivalent pre- and posttest.

TABLE 2

EFFECTS OF TUTORING
(Reading test)

	Tutors				Nontutors			
Test	Mean	S	N	t	Mean	S	N	t
Pretest	37.50	7.98	12	.24 df=11	28.25	8.89	12	1.43 df=11
Post-test	37.83	5.98	12	NS	29.75	6.14	12	NS

Gains during the treatment period, as indicated in Table 3 were not significantly greater for the tutor or nontutor group. However, because the nontutor group consisted of both males and females and all the tutors were males, the gains made by the males were compared with the gains made by the females. These gains were not significantly different. ($p < .10$)

TABLE 3

GAIN DURING TREATMENT PERIOD
(Reading test)

Group	Mean	S	N	t
Tutors	.33	2.23	12	.86 df=22 NS
Nontutors	1.50	4.17	12	
Males	-1.75	1.50	4	2.12 df=7 NS
Females	3.13	4.39	8	

Because the two groups, tutors and nontutors, were different, it was possible that regression effects influenced the results. Therefore, with the two groups being different and no significant gains recorded, it was possible that the use of Campbell's Regression Discontinuity Design would supply additional information. The regression of posttest scores on pretest scores was plotted. Figure 1 shows the regression lines of the two groups. Considerable overlapping occurred.

Campbell's Regression Discontinuity Design required that a sharp cut off point be established with no overlapping data. Therefore, a cut off point of 33 was established and overlapping data was omitted. N was then reduced to 9 for the treatment group and 8 for the nontreatment group.

The 7 subjects omitted from the design did not meet the criteria on the basis of pretest scores necessary for the design. The principal of the school chose the tutors and tutees on the basis of need with two restrictions. She had to choose boys and she had to limit the number to 12 tutors and 12 tutees.

Figure 2 shows that discontinuity did result when the data was adjusted. In Figure 2, both regression lines have approximately the same slope but a considerably different intercept. Using the t test of significance with variance error of the estimate as the variance portion of the t test formula, it was established that the intercept

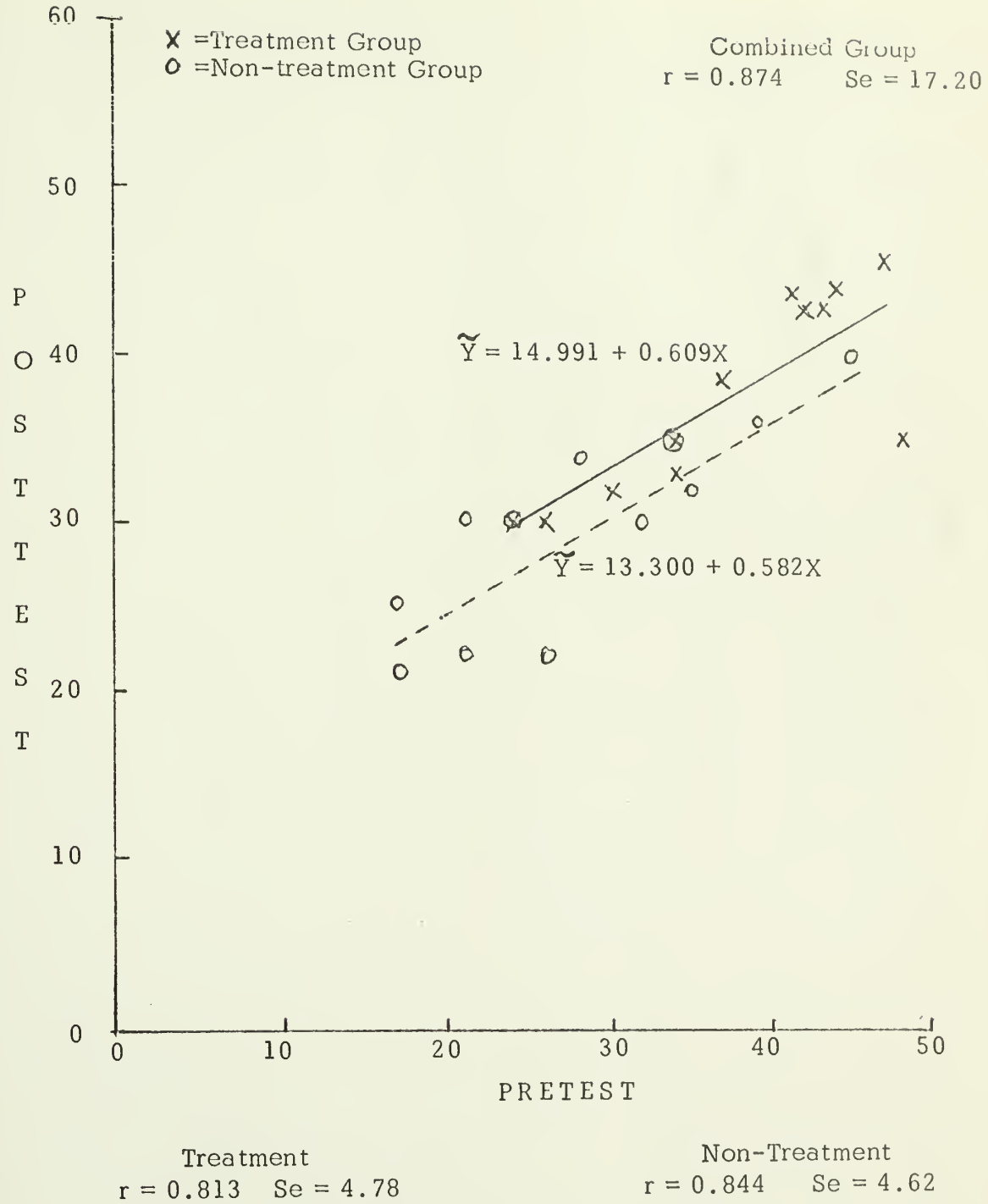


Fig. 1. Regression lines of posttest reading scores on pretest reading scores of grade 7 subjects.

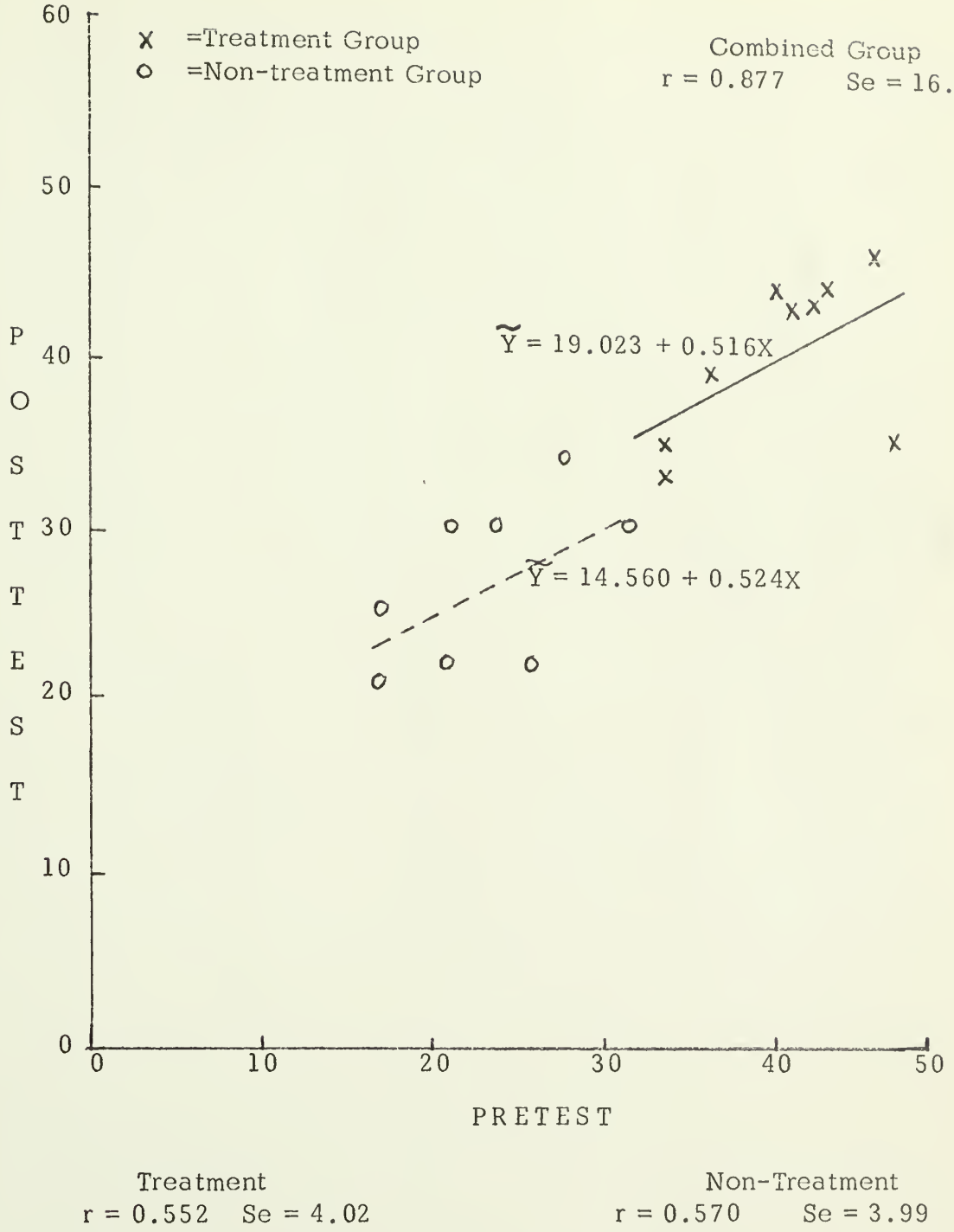


Fig. 2. Regression lines of posttest reading scores on pretest reading scores of grade 7 subjects--adjusted data.

points were significantly different for the two lines indicating that there was a true difference between the treatment and the nontreatment regression lines. ($t_{(8)} = 2.29$, $p < .05$) Therefore, the null hypothesis was rejected.

Grades (See p. 21.)

Another area of interest was whether the grades differed before and after treatment. Table 4 shows this information for tutors and nontutors. The means and standard deviations appeared to be the same and a t test of significance indicated that there was no greater difference than would be expected by chance. Therefore, the null hypothesis was not rejected.

TABLE 4

GRADE MEANS BEFORE AND AFTER TREATMENT

Time	Tutors				Nontutors			
	Mean	S	N	t	Mean	S	N	t
Before treatment	6.50	2.71	12		6.09	2.98	11	
After treatment	6.83	2.69	12	NS	6.45	3.36	11	NS

Behavior (See p. 22.)

Behavior change was another area of interest. Table 5 is a four-fold table of frequency. The observed frequencies were not found to differ significantly from the expected in any one of the four cells. Computation yielded a Chi Square equal to .849 which is not significant with one degree of freedom. The null hypothesis was not rejected.

TABLE 5

NUMBER OF SATISFACTORY RATINGS
(Behavior Evaluation)

	Before treatment	After treatment
Tutors	E 9.88 O 8	E 14.12 O 16
Non-tutors	E 25.12 O 27	E 35.88 O 34

$\chi^2_1 = .849$
NS

E = Expected frequencies
O = Observed frequencies

Inventory of interests and attitudes (See p. 22.)

Improvement in interests and attitudes was the next area of concern. Again, a four-fold table of frequency was utilized. In Table 6, it can be noted that the observed frequencies differed only slightly from the expected frequencies. Chi Square of 2.011, $p < .20$

was not sufficient to reject the null hypothesis. The table tends to indicate a slight advantage to the nontutors as opposed to the tutors. The answers to question 8 were totaled separately as shown in Table 7. There was no significant change in the answers of either the tutors or the nontutors.

TABLE 6

INVENTORY SCORES
(Interests and Attitudes)

	Improved	Regressed
Tutors	$E_{25.33}$ O_{22}	$E_{23.67}$ O_{27}
Nontutors	$E_{20.67}$ O_{24}	$E_{19.33}$ O_{16}

$\chi^2_1 = 2.011$ NS

TABLE 7

ANSWERS TO QUESTION 8 (Inventory of Interests and Attitudes)--
"If you were on an island for a long time with a few other people, would you help to organize a school?"

Group	January			May			
	Yes	No	Maybe	Yes	No	Maybe	N
Tutors	4	6	2	4	6	2	12
Nontutors	9	3	0	8	4	0	12

Sociometric choices (See p. 22.)

Another area of interest was whether or not the tutors increased their popularity as a result of the treatment. Again, the analysis was made on a four-fold table of frequency and the observed frequencies were found to be slightly different than the expected frequencies, as shown in Table 8. Computation yielded a Chi Square equal to 2.155, ($p < .15$), not sufficient to reject the null hypothesis. The table tends to indicate a slight advantage to the tutors as opposed to the nontutors.

TABLE 8

SOCIOMETRIC CHOICES

	Before treatment	After treatment
Tutors	$E_{29.50}$ $O_{26.0}$	$E_{29.50}$ $O_{33.0}$
Nontutors	$E_{18.50}$ $O_{22.0}$	$E_{17.50}$ $O_{15.0}$

$\chi^2_1 = 2.155$ NS

School attendance (See p. 22.)

The final area of concern was whether the treatment improved school attendance. Analysis of the attendance means, as shown in

Table 9, indicated that there was no significant increase in days present for either group. During the second semester, that is, the treatment period, there were ten more school days and a gain of 8 plus days for both groups. The null hypothesis was not rejected.

TABLE 9

INCREASE IN DAYS PRESENT

Group	Mean	S	N	t
Tutors	8.58	2.72	12	
Nontutors	8.82	5.28	11	NS

The data for Grade 3 will now be considered. There were thirty-six subjects for Grade 3, twelve tutees and twenty-four non-tutees. The mean age of the tutees was 8.9 years, as of January 20, 1970, and the mean age of the nontutees was 8.8 years.

Reading Scores (See p. 21.)

As can be seen in Table 10, the two groups were significantly different before and after treatment. A t-value significant at the .01 level was found between the two groups both times.

TABLE 10

DIFFERENCES BETWEEN GROUPS
(Gates-MacGinitie Reading Test - Primary C)

Group	Pretest				Posttest			
	Mean	S	N	t	Mean	S	N	t
Tutees	15.17	6.97	12	3.92** df=11	20.50	6.25	12	3.00** df=11
Non-tutees	28.75	10.90	24		30.54	10.66	24	

** $p < .01$

Table 11 shows the effects of tutoring. For the tutees, the difference was significant at the .01 level. For the nontutees, the change was not significant at the .15 level. On this basis, the null hypothesis was rejected.

Table 12 shows the gains made during the tutoring period. The difference between the mean gain of the tutees and nontutees was not significant. However, when males and females were considered separately in the nontutee group, the difference was significant between the nontutee females and the tutees. The difference of the mean gain between the tutees and the nontutee males was not significant.

TABLE 11

EFFECTS OF TUTORING
(Reading test)

Test	Tutees				Nontutees			
	Mean	S	N	t	Mean	S	N	t
Pretest	15.17	6.97	12	3.23** df=11	28.75	10.90	24	1.54 df=23
Posttest	20.50	6.25	12		30.54	10.66	24	NS

** $p < .01$

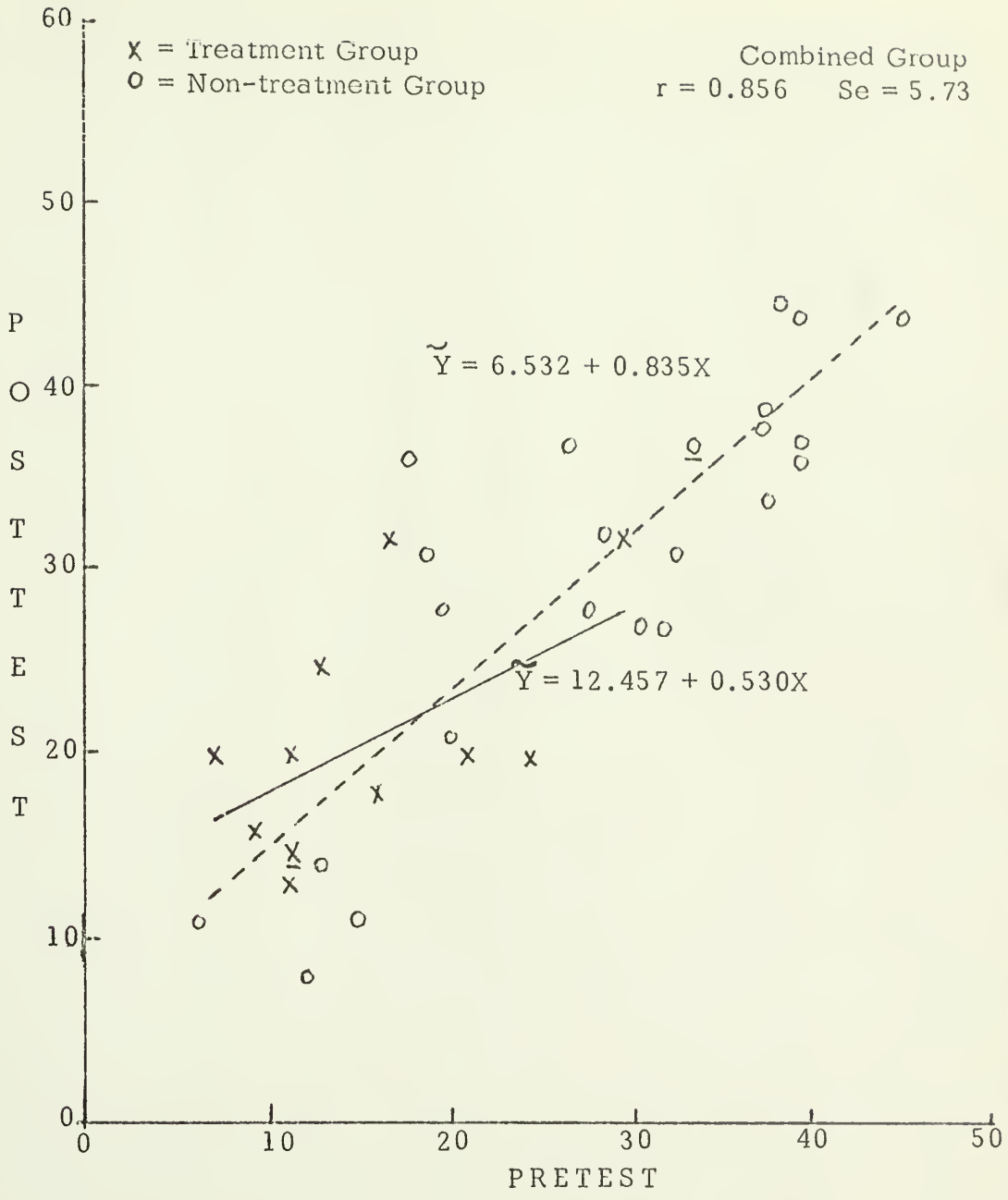
TABLE 12

GAIN DURING TREATMENT PERIOD
(Reading test)

Group	Mean	S	N	t
Tutees	5.33	5.75	12	1.75 df=11
Nontutees	1.79	5.71	24	NS
Males	4.40	7.11	10	2.15* df=9
Females	-.07	2.76	14	

* $p < .05$

Even though the null hypothesis was rejected, based on the effects of tutoring as shown in Table 11, Campbell's Regression Discontinuity Design was also used with the reading scores. The regression of the posttest scores on the pretest scores was plotted. Figure 3 shows



Treatment
r = 0.591 Se = 4.78

Non-Treatment
r = 0.854 Se = 5.43

Fig. 3. Regression lines of posttest reading scores on pretest reading scores of grade 3 subjects.

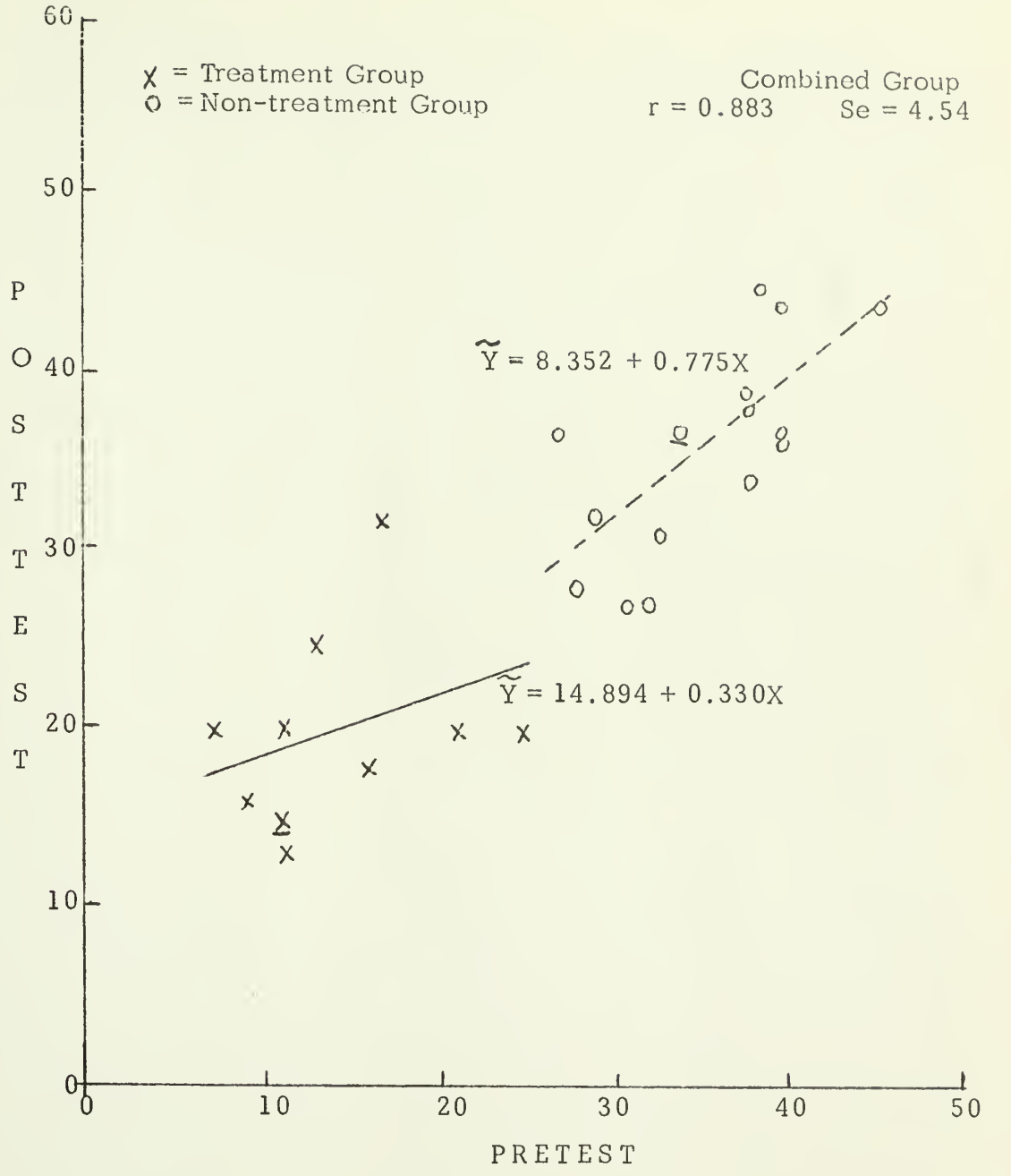


Fig. 4. Regression lines of posttest reading scores on pretest reading scores of grade 3 subjects--adjusted data.

the regression lines of the two groups with overlapping occurring. Figure 4 shows the data adjusted with a cut off point of 26 established and overlapping data omitted. N is reduced to 11 for the treatment group and 16 for the nontreatment group. A discontinuity resulted, but it was a pseudo effect. A t test of significance of differences of intercepts (a value) was done using variance error of estimate as a measure of group variation. Resultant t value = 3.59, df = 10, $p < .01$. In spite of this evidence of discontinuity, the slopes of the two lines were quite different and total variance did not exceed individual variances.

Grades (See p. 21.)

Table 13 shows that the reading grade means for both groups were significantly different before and after treatment at the .01 and .05 level respectively.

TABLE 13

GRADES IN READING

Group	Before treatment				After treatment			
	Mean	S	N	t	Mean	S	N	t
Tutees	1.33	.85	12	3.99** df=11	1.67	1.89	12	2.08* df=24
Nontutees	2.64	1.09	25		2.80	1.03	25	

* $p < .05$

** $p < .01$

Table 14 shows that the total grade means for all subjects for both groups were significantly different before and after treatment at the .01 level. Total grades for all school subjects increased significantly for the treatment group, $t = 2.12$, $df = 11$, $p < .05$. The increase for the nontreatment group was not significant. The null hypothesis was rejected.

TABLE 14

GRADES IN ALL SCHOOL SUBJECTS

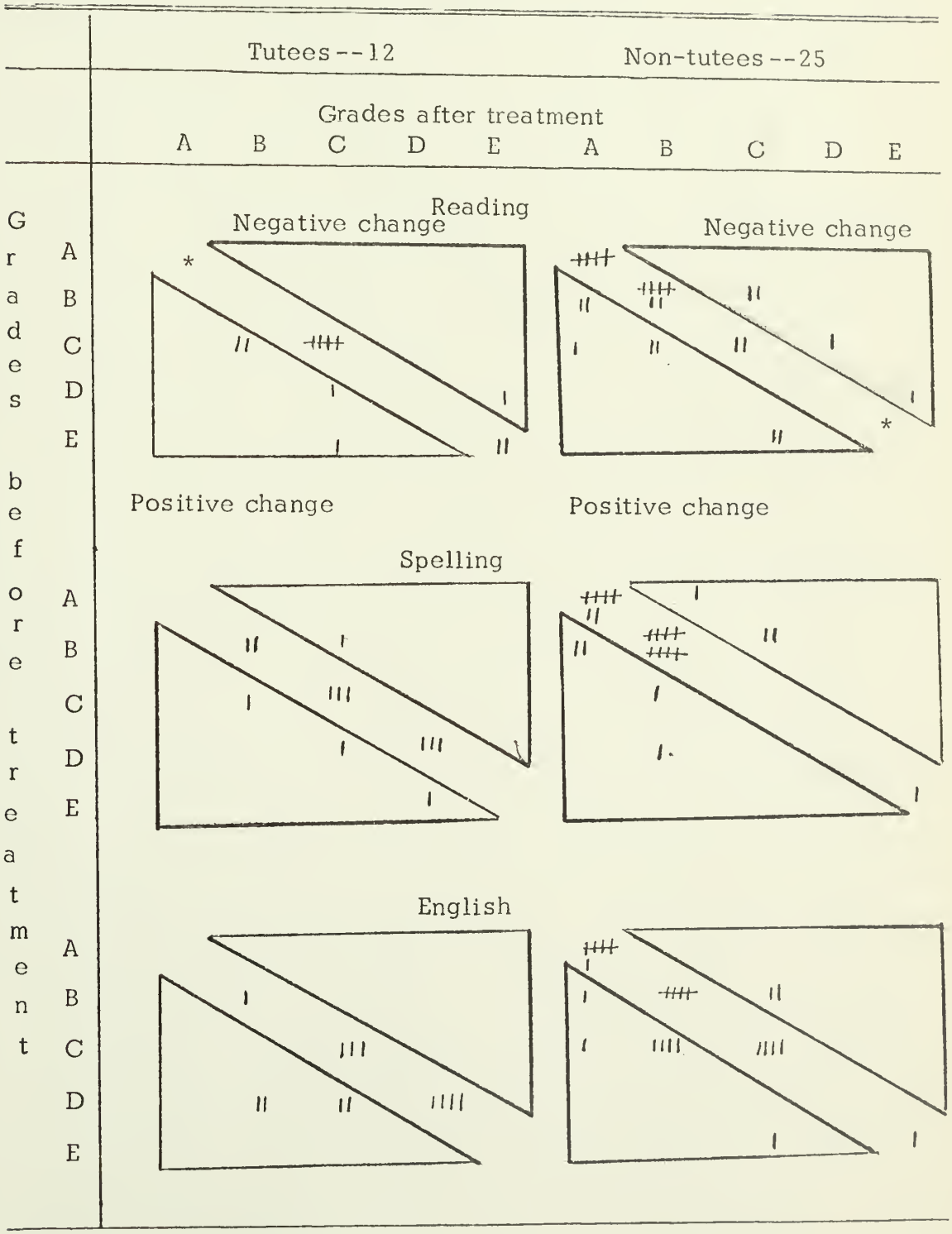
Group	Before treatment				After treatment			
	Mean	S	N	t	Mean	S	N	t
Tutees	9.83	2.41	12	5.17** df=11	12.25	2.92	12	4.41** df=11
Nontutees	16.24	5.12	25		17.92	4.85	25	

** $p < .01$

Because grades are not entirely dependent upon pupil behavior, but are a result of both pupil and teacher behaviors, a comparison of individual grade changes was made as shown in Table 15. The changes in grades are indicated in the off-diagonal cells outlined on the table. The frequencies in the upper half indicate negative changes whereas the frequencies in the lower half indicate positive changes. Those frequencies on the diagonal indicate no change.

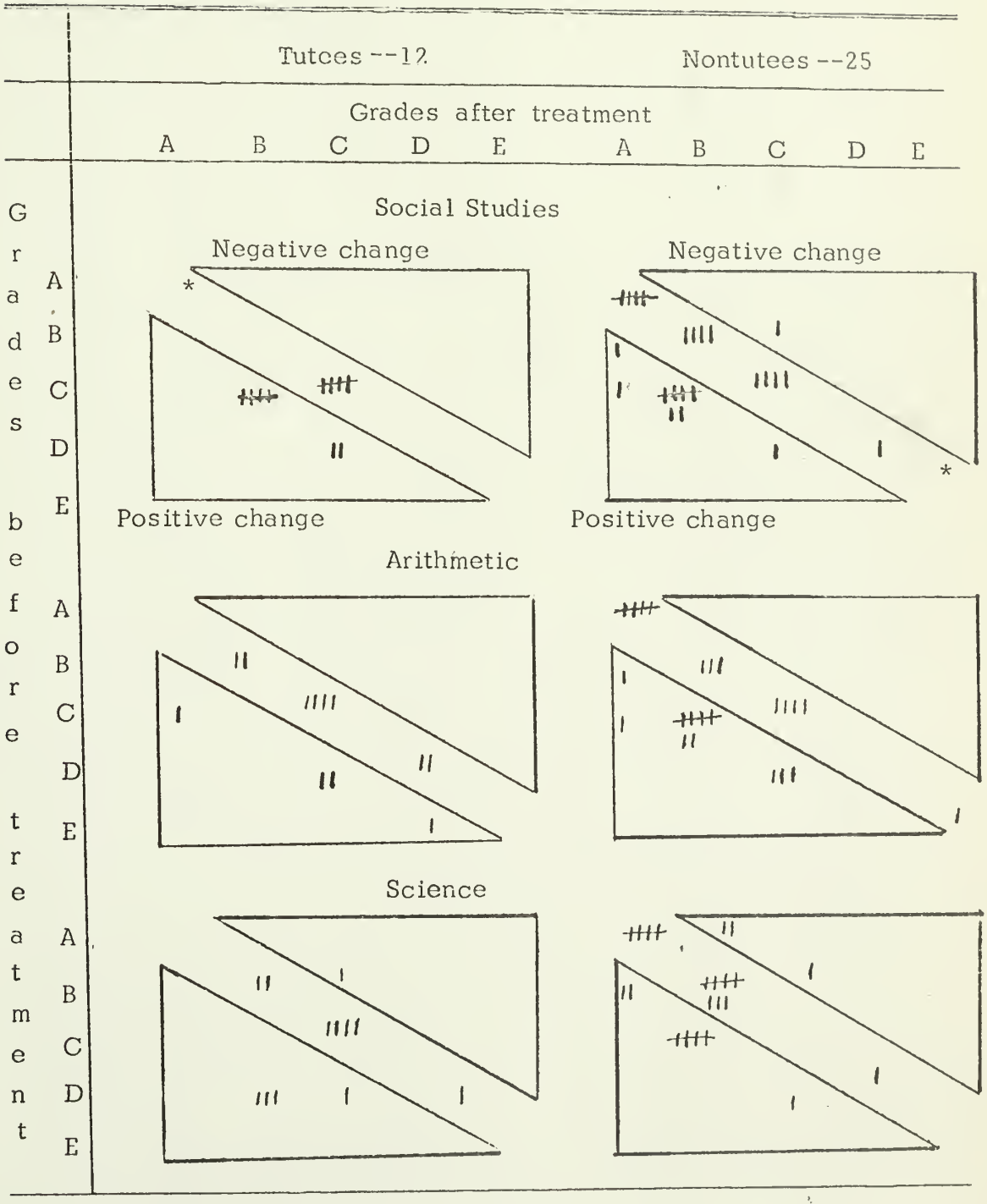
TABLE 15

COMPARISON OF GRADES BY SUBJECT



* Diagonal indicates no change

TABLE 15-- continued



* Diagonal indicates no change

Table 15 indicates that there is probably no significant difference between the tutees and nontutees in terms of the frequency of improvement in grades or frequency of regression of grades. The frequencies show that the groups performed approximately the same. Relatively few pupil grade changes caused the statistical significance reported in Tables 13 and 14.

Behavior (See p. 22.)

Table 16 is a four-fold table of frequency. The differences between the expected frequencies and observed frequencies were not significant for either group. ($\chi_1^2 = 1.945$) Therefore, the null hypothesis was not rejected.

TABLE 16

NUMBER OF SATISFACTORY RATINGS
(Behavior Evaluation)

	Before treatment	After treatment
Tutees	$E_{31.51}$ O_{32}	$E_{36.49}$ O_{36}
Nontutees	$E_{82.49}$ O_{82}	$E_{95.51}$ O_{96}

$\chi_1^2 = 1.945$ NS

Inventory of interests and attitudes (See p. 22.)

Again, a four-fold table of frequency was utilized. In Table 17 it can be noted that the observed frequencies differed only slightly from the expected frequencies. A Chi Square of 2.084 was obtained. ($p < .15$) The null hypothesis was not rejected. The table tends to indicate a slight advantage to the tutees as opposed to the nontutees. The answers to question 8 were totaled separately as shown in Table 18. There was no significant change in the answers of either the tutees or nontutees.

TABLE 17

INVENTORY SCORES
(Interests and Attitudes)

	Improved	Regressed
Tutees	$E_{26.37}$ O_{30}	$E_{13.63}$ O_{10}
Nontutees	$E_{62.63}$ O_{59}	$E_{32.37}$ O_{36}

$\chi^2_1 = 2.084$ NS

TABLE 18

ANSWERS TO QUESTION 8 (Inventory of Interests and Attitudes)--"If you were on an island for a long time with a few other people, would you help to organize a school?"

Group	January			May			
	Yes	No	Maybe	Yes	No	Maybe	N
Tutees	4	6	0	3	7	0	10
Nontutees	12	11	0	11	11	1	23

Sociometric choices (See p. 22.)

Table 19 shows that the differences between the expected and the observed frequencies were not significant for either group. ($\chi_1^2 = .032$) Therefore, the null hypothesis was not rejected.

TABLE 19

SOCIOMETRIC CHOICES

	Before treatment	After treatment
Tutees	$E_{23.5}$ $O_{24.0}$	$E_{23.5}$ $O_{23.0}$
Nontutees	$E_{48.5}$ $O_{48.0}$	$E_{48.5}$ $O_{49.0}$

$\chi_1^2 = .032$ NS

School attendance (See p. 22.)

Table 20 shows that the difference in the days present for the two groups was significant at the .01 level. The null hypothesis was rejected.

TABLE 20

INCREASE IN DAYS PRESENT

Group	Mean	S	N	t
Tutees	7.08	1.81	12	3.14** df=11
Nontutees	8.94	2.17	24	

** $p < .01$

The results of the study, as shown in the preceding tables and figures, are analyzed in the next chapter.

CHAPTER IV

ANALYSES OF RESULTS

As in the preceding chapter, Grade 7 is discussed first, then Grade 3. Each hypothesis is treated separately.

Hypothesis 1

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the reading scores of the tutors as measured by the Gates-MacGinitie Reading Test.

While the gain scores did not indicate significant change for the tutor group, this might have been predicted because of possible regression artifacts. Regression artifacts were present, as shown by the fact that both groups were significantly different on pretest and posttest. It was for just such cases that Campbell devised the Regression Discontinuity Design. As was discussed earlier, when the regression lines for each of the groups were plotted with the posttest regressed on the pretest and overlapping data omitted, a sharp discontinuity appeared. The slopes of the two lines were approximately equal which was to be expected considering that both groups gained approximately equal amounts from pretest to posttest. However, the two lines had significantly different intercepts.

Further indication that these were two significantly different lines was verified through examination of three variance scores. The pooled variance of the combined lines was greater than the individual variance of each line. According to Campbell, this is a clue for true effects. Therefore, Hypothesis 1 was confirmed.

Hypothesis 3

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the grades of the tutors.

The gains for both groups were equivalent. Hypothesis 3 was rejected. The findings supported the research by Cloward (1967) in which the grades were collected for two years, pre- and post- tutoring, with no significant change in spite of improved reading scores.

It would appear that improvement in reading scores should automatically improve grades because so much of the school curriculum is based upon reading. However, grades are also often based on performance or behavior, not ability. For example, a student might study a play, understand it well, and then not hand in a written assignment on it. His behavior then influences his grade. The tutors had behavior problems. Perhaps, their behavior rather than their reading ability exerted more of an influence on their grades. Grades might not

be as much of an objective criteria as one would believe. Even if there was transfer from reading improvement to improvement in the other school subjects, perhaps the improvement was not adequate enough to be perceived by the teacher. Other effects could have clouded her judgment such as the tutors' histories of poor achievement and poor behavior.

Hypothesis 5

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the behavior of the tutors by increasing kindness, politeness, conformity, and self-control.

By the nonsignificant finding of the Chi Square analysis, Hypothesis 5 was rejected. The results clearly defined the tutors as having behavior problems because the number of satisfactory ratings received by the tutoring group was considerably lower than those received by the nontutoring group, though the groups were of equal size.

The tutors' satisfactory ratings did increase slightly from January to May. The reason that the tutors did not improve their behavior more might be due to the tutoring itself. Many of the tutors had poor relationships with their teachers. As an outsider, the investigator was privileged to many a derogatory remark made by the

tutors about teachers. Perhaps tutoring intensified the adolescent's rebellion against authority. In the tutoring situation, the adolescent was in charge. He was usually treated with respect and admiration. His reputation did not hound him for the half hour of tutoring. Yet, as soon as he went back to class, back also went his reputation whether his behavior warranted it or not. The disparagement between the two situations was underscored. The implication is not that tutoring has a negative effect but rather that the adolescent needs to be given more responsibility in the classroom.

The teacher provided the behavior ratings. The principal, on the other hand, saw improvement in the tutor's behavior. She stated that her goal was to be able to keep them in school and not have to suspend them during the year. Only one tutor was suspended (for one week) and this was during the first week in February. The tutoring program had just started.

Hypothesis 7

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the interests and attitudes of the tutors as measured by the Inventory of Interests and Attitudes.

By the Chi Square analysis, Hypothesis 7 was rejected. The

study supported the findings of Cloward (1967) that tutoring did not significantly change the attitudes and aspirations of the tutors. The data in response to Question 8 concerning organizing a school supported the rejection of the hypothesis. There was a slight indication that the nontutoring group improved their interests and attitudes more than the tutoring group.

Hypothesis 9

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, increases the social acceptance of the tutors as measured by two sociometric questions.

Because the differences between the tutors and nontutors were significant at only the .15 level, Hypothesis 9 was rejected. However, the trend of the tutors toward increasing popularity led to some interesting considerations.

Although Bonney (1943) found that popularity tended to be constant, perhaps tutoring caused the shift in the seventh grade class. Also, according to Rosenthal (1957), the ability to communicate with others was an important factor in the determination of a child's popularity. The whole tutoring project was based on oral language development. The tutors were trained to encourage oral language with their tutees. Each tutoring session forced them to practice this skill.

Moreover, research by Loban (1953) indicated that those who were highly accepted showed greater sensitivity for the feelings of others. Here, again the tutors were continually advised to consider the feelings of the tutees. Perhaps, the tutors increased their social acceptance because the treatment increased both their ability to communicate and their sensitivity to others.

Hypothesis 11

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the school attendance of the tutors.

Because the difference between the school attendance of the tutors and nontutors was not significant, Hypothesis 11 was rejected. Perhaps, this could have been predicted because the subjects were rural children who traveled to school by bus. It was not as easy for them to skip school as it would be for city children. Research by Fortune, Berliner, and Ungerleider (1970) indicated that school attendance decreased as urbanization increased. Also, the incentive may have been greater for the rural child to attend school. School may be the only place where he can see many of his friends, whereas the city child can usually see his friends outside of school.

Hypothesis 1 was accepted. Hypotheses 3, 5, 7, 9, and 11 were rejected.

Following are the analyses for Grade 3.

Hypothesis 2

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the reading scores of the tutees, as measured by the Gates-MacGinitie Reading Test.

The reading scores of the tutees changed significantly while the nontutees' scores did not. The tutees gained at a faster rate. Therefore, Hypothesis 2 was accepted. The reason that the Discontinuity Design did not support the hypothesis is probably because the discontinuity existed before the treatment and became less of a discontinuity. The tutees became more like the nontutees. There are two possible explanations for this. Either a regression effect was operating or the treatment was beginning to work or show signs of equalizing output between the two groups. This could not be tested, but was implied by the results.

Hypothesis 4

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the grades of the tutees.

It would appear that the tutees increased their grades significantly whereas the nontutees did not and that some of the tutees were becoming more like the nontutees. Perhaps the gain was quantitative rather than qualitative. For example, the tutees might have been completing more of their work. Perhaps the tutees learned more ways of succeeding in school. Another possible explanation for the improvement in grades might be teacher expectancy. The teacher knew the tutees were receiving special help. Therefore, she expected the improvement in their grades. However, if this were the situation, then one would have expected the tutees' behavior ratings to also improve because of teacher expectancy. This did not happen. Therefore, it would appear that the improvement in grades was not totally based on teacher expectancy.

However, the results concerning Hypothesis 4 are inconclusive because of the few numbers involved. Hypothesis 4 is rejected because there is not sufficient evidence to support it.

Research by Cloward (1967) and Furst, Rosenshine, and Mattleman (1970) indicated that there were no significant differences in teacher grades after tutoring for either control or experimental groups.

Hypothesis 6

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the behavior of the tutees; by increasing kindness, politeness, conformity, and self-control.

Because there was no difference between the expected and observed frequencies of either group, Hypothesis 6 was rejected. Perhaps, there wasn't an adequate change in behavior patterns observable to the teacher. The tutees may have improved but they still required the teacher's attention. The tutees had more problems than the nontutees. Therefore, the teacher was more aware of their actions. Also, the instrument used may not have been precise enough to record improvement in behavior. The teacher may not have been really marking on kindness, politeness, conformity, and self-control.

In research by Rosenshine and Furst (1969a), tutored pupils were found to have significantly poorer attention scores after tutoring than did nontutored pupils. However, there was no base line data to compare the two groups at the beginning of the study. In a subsequent experiment by Furst, Rosenshine, and Mattleman (1970), randomly selected control and experimental groups were used to test for attending behavior. The results were not significant, although there was a trend in favor of increased lack of attention for the tutored group. The research article

stated:

> It is disconcerting to find that in these studies one artifact of tutoring may be a trend to less attending behavior in regular classrooms [p. 6] .

Rather than implying that tutoring has a negative effect, perhaps the finding signals the importance of individualized instruction in the classroom.

Hypothesis 8

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the interests and attitudes of the tutees, as measured by the Inventory of Interests and Attitudes.

Because the analysis yielded a nonsignificant Chi Square which exceeded chance probability by .20, Hypothesis 8 was rejected. The data in response to Question 8 concerning organizing a school supported the rejection of the hypothesis. The finding supported the research by Cloward (1967) and that by Rosenshine and Furst (1969a) in which tutoring did not significantly change attitudes and aspirations. There was a slight indication that the tutees improved their interests and attitudes more than the nontutees.

Hypothesis 10

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, increases the social acceptance of the tutees, as measured by two sociometric questions.

Because the differences between the expected and the observed frequencies were not significant for either group, Hypothesis 10 was rejected.

The finding supported the research by Bonney (1943) that popularity was constant. Moreover, Grossman and Wrighter (1948) found that a below average reading achievement was associated with low sociometric status. The tutees had a significantly lower reading achievement than the nontutees.

Hypothesis 12

The use of older underachieving boys to tutor younger underachieving boys, using an oral language approach, improves the school attendance of the tutees.

On the basis of the t test, Hypothesis 12 was rejected. The fact that the nontutees increased their days present significantly ($p < .01$) indicated that tutoring caused a decrease in school attendance. This is a possibility. The trend toward less attending behavior in the classroom after tutoring (Furst et al., 1970) should be considered. The

tutee might have depended upon the special attention and resented the regular classroom situation more.

There might also be other reasons to account for the tutees' decrease in school attendance. At least one of the tutees was scheduled to repeat third grade. His absences were frequent. Perhaps he and his mother saw no value in regular attendance for the rest of the school year. The fact that the tutees were such poor readers probably caused their school day to be less pleasant than the non-tutees'. Therefore, the tutees would be more eager to stay at home. Research by Rosenshine and Furst (1969a) did not indicate that tutoring improved school attendance.

Hypothesis 2 was accepted. Hypotheses 4, 6, 8, 10, and 12 were rejected.

The findings of the study tended to support previous research on tutoring; that is, that tutoring improves the reading of both tutors and tutees, but does not improve their grades, attitudes, behavior, or attendance. However, as noted in the review of literature, there has been little research done on tutoring. There is obviously a need for many more investigations.

CHAPTER V

ANECDOTAL RECORDS

This chapter consists of anecdotal records of those involved in the tutoring project. By itself, it is of little value in offering support for the hypothesis that tutoring benefits both tutor and tutee. Most tutoring projects offer only this type of evaluation. However, coupled with statistical evidence, it helps to support the hypothesis and gives practical significance to the study. Tutoring needs to be enjoyed and perceived as beneficial in order to be accepted.

The following are anecdotal accounts of each tutor with an example of his writing taken from his log. The tutors did not appear to like writing in their logs. Where a tutor has misspelled a word, the correct spelling appears in parenthesis following the misspelled words. However, none of the punctuation or grammar has been corrected.

> Tutor #1 -- Loud, pleasant, vocal child. Punched tutors who fooled. He said that the 7B group was the dumb class and laughed that they therefore didn't have as much homework. He also said that his father was going to put him in jail if he didn't straighten out. The principal said that she gave him a hyperactive child for a tutee. Tutor had a hard time getting

the tutee to stop talking.

Log: "Luc read and played all kinds of games and gave him for echo word desparate (desperate) I learned him some maners (manners) he didn't no (know) much he does now"

Tutor #2 -- Tall, husky clown. Poor home conditions. Behavior problem in school. In May, he gave up smoking because it made him sick in the morning. The principal gave him a tutee who mirrored himself. However, the tutee was subdued in awe of him, and in return, the tutor was considerate and soft-spoken to him. The tutee's father complained that the tutor had shown nude pictures to his child. Tutor was embarrassed and repentant.

Log: "We didnot read so long to (too) long Jeff dose (does) a lot of work, we had fun Meteorlogist (meteorologist) 1.2.3.4.6.8.9"

Tutor #3 -- Small, quiet, unkempt dreamer, openly insulted by other tutors because of offensive odor. He seldom wrote in his log. The principal gave him a nervous, timid tutee who had been too fearful to leave his classroom to go to the library or lunchroom. Third grade teacher particularly mentioned the value of this tutoring team. The tutee was oblivious to the tutor's faults and gained much confidence from the sessions.

Log: "did good, read Ghost Town Treasure played round robin story"

Tutor #4 -- Small, quiet appearing child. However, by May, he was acting out, smoking, and flippant in a timid manner. At least, he was verbalizing his feelings. Often did not write in his log. The principal gave him an outgoing tutee.

Log: "he read a little bit and we played catagories (categories) and we played he remembered the echo word the word is cargo"

Tutor #5 -- Good-looking, soft-spoken child. Mother dead. Father busy. Child thinks of himself as a nobody. The principal gave him a very shy tutee to help his own self-image. Tutor was very considerate. Librarian shook tutee for laughing. Tutor, enraged, brought him in tears to training session to stay until he calmed down.

Log: "Echo - Encyclopedia

Name of book: Waggles ant (and) the Dog Catcher

Encyclopedia Brown Boy DETECTIVE

I thoug (thought) he would hear me read and them (then) I would let him read He likes this and I do"

Tutor #6 -- Friendly, polite boy. Fooled with other tutors. From stable family. The principal gave him a tutee with opposite family background. Tutor was very good with tutee.

Log: "He didn't know the word transfer and I told him and he didn't get bored and we played situations. games 5, and 6. And we read the rest of The man who didn't wash his dishes."

Tutor #7 -- Pleasant child. Scored well on reading test. Often did not write in his log. He seemed very good with tutee.

Log: "Bobby was very good. Echo word is litmus paper The book is Casey the game we played was alphabet he likes it."

Tutor #8 -- Parents died from carbon monoxide. Behavior problem. In February, he was suspended from school for one week. Behavior improved greatly by May except for smoking. He asked for the only black tutee and did an outstanding job with him.

Log: "Echo word ----liberty; forgot last one

Book - Secret hide out

Spelling - 4 out of 20 ain't bad

Reading - hard book; din't (didn't) do so good"

Tutor #9 -- Quiet, moody child. Prided himself on being a "loner" like his father and uncle but minded not having friends. Usually stayed to help investigator pick up. Scored high on reading test but was a poor speller.

Log: "Mark and I read old Cher (Charlie) renbed (remembered) ecco (echo) word pregmet (pregnant). played gares (games) 141245 mark reads wery (very) good but sometines (sometimes) he slunbles (stumbles) over small words"

Tutor #10 -- Extremely pleasant but very shy child. The principal gave him a very difficult tutee, an older third grader bored with school. One day, the tutor told the investigator that he didn't want his tutee anymore. However, he persevered. (Note log.)

Log: "We did nothing. He was bored."

"Steven did 2 3 4 7 5 8

Steven Read "Lets find out about Summer"

Steven Read to me. He reads very well

We did my grandmother trunk

Steven was the very, very best I have ever seen it.

Steven has improved 100 %"

(The tutor said that the reason for the improvement was because the tutee read the tutor's log and saw where the tutor had said that the tutee was a good boy.)

Tutor #11 -- Small child. Behavior problem. The principal gave him a very difficult tutee who mirrored himself. Tutor

fought with parents. He was in tears one day because his parents cut his hair. Tutored with kerchief and cowboy hat on his head. He told the investigator that he was going to run away from home. Tutee sober and sympathetic. Principal talked with tutor and calmed him. However, the next week was vacation and tutor ran away. By May, tutor was cross and even left the tutee with another tutor to go and have a smoke. Yet, on questionnaire, he indicated that he enjoyed the tutoring program very much. (Note log.)

Log: "good except for he liked to tell dirty jokes he said his parents tell them to him other than that he was good."

"the echo word is hasardes (hazardous) and I tried to tell him nice jokes but he is not interested he didn't want to read or do any games. He just wanted to tell jokes. We tried to read Old Charlie."

"Ronny remembered the echo word and did very well he didn't even swear We finished the book Calico"

Tutor #12 -- Extreme behavior problem - unstable. Put out of public school two years ago - entered private school - private school requested that he withdraw last June. He did fairly well tutoring except for taking things and monopolizing the conversation. He seldom wrote in his log and clowned a great deal. He was not liked by the other tutors. His tutee seemed

to like him.

Log: "Echo word female

Finished reading the book Waggles and the dog catcher and he seemes (seems) to get bored and restless when we are reading.

When we play games he has trouble talking he talks like un ah ee oh I will ask his teacher if it is just fright or if he always dose (does) it."

The teachers and the principal praised the tutoring program. They felt that the tutors gained status -- something the 7B boys did not have before. The tutees felt special. The emphasis on reading was praised. In June, when the investigator was in the school office collecting data on marks and attendance, tutors and tutees stopped to talk. They wanted to know if they could do it again next year. The tutees wanted to know if they could have the same tutors.

On the following pages are the children's answers to the tutoring questionnaires. The tutor's and his tutee's answers are given together. The tutors answered the questionnaire at the end of the last tutoring session. They were specifically asked to be honest and not to say "Yes" if they meant "No" nor "No" if they meant "Yes". The investigator returned to the school a week later and met with the tutees to have their questionnaire filled out. Unfortunately the answers to Question 3 appear to be colored by the fact that the day before, they had been taken

by their tutors through the school's nature walk.

The answers to the questionnaires were helpful. At least two of the children did not like the echo word. Apparently more thought should have been given to the selection of the word. Perhaps, words with interesting histories, such as corduroy, should have been supplied to the tutors. Five entries concerned the oral language games. It would have been helpful for future tutoring projects to have listed the games and have the respondents rank their ten favorites. Also in future programs, the games might be optional and the sessions consist of just oral reading and talking. These two features seemed to be preferred.

TABLE 21

ANSWERS TO QUESTIONNAIRES ON TUTORING

12 Respondents	12 Respondents
Tutors	Tutees
1. Did you like being a tutor? Eleven answered "Yes". "At times Yes At times No"	1. Did you like having an older boy work with you? Twelve answered "Yes".
2. Would you like to be a tutor next year? Ten answered "Yes". "Yes I would its (it's) fun teaching a person younger than you." "I don't know."	2. Would you like to have an older boy work with you next year? Ten answered "Yes". Two answered "No". (One will repeat grade three and the other is a repeater.)
3. What did you like the most? "how the kid behaved and how quick he learned manners and learned language" "the games and the way he tries to pull my leg" "When we discussed things" "reading" "talking with the child" "playing the games and reading" "when we recorded and Bobby did real well" "see Tony's reaction in having a funny and excitment (exciting) story, and having a smart and cowporating (cooperating) child helps."	3. What did you like best? "wher (where) the nather (nature) trail" "The game" "reading" "nature trail" "games" "Nantare (nature) tral (trail)" "reding (reading)" "Nanture (nature) trail"

TABLE 21 -- Continued

12 Respondents	Questionnaires on Tutoring	12 Respondents
Tutors		Tutees
"I liked the part wher (where) we read" "When he didn't act up" "reading" "working with this special boy"		"nature trail" "When he worked with me" "game" "talking"
4. What did you like the least?		4. What did you like least?
"having the boys two days a week we should have them three days a week" "when edward comes in botherts (bothers) us" "when he talked to (too) much" "writing in my log" "the games" "There ain't anything that I didn't like."		"the eacco (echo) word" "when we went back to the school room." "echo-word" No answer given "nothing" "we went back to school on the Nantartral (nature trail)"
"when Bobby wanted to fool the whole period." "have two kids together, I can do better with one, he can to (too)." "the part of the games"		"gans (games)" "went (when) we went back to the school" "I bid (did) not like gon (going) from the nature trail"
"Him being so much older than the others and wanting to play other games" "writing in my log" "he didn't work once in a while."		"ABC game" "the ABC" "nothing"

TABLE 21 -- Continued

12 Respondents Tutors	Questionnaires on Tutoring	12 Respondents Tutees
5. How would you change SPI? "Do not have it on Friday because the little kid can not remeber (remember) the echo word over the weekend" "I wouldn't because I think it is a well organtced (organized)" "Have it longer" "no way" "tutor all but two days not have any games" "I wouldn't. I think its (it's) all right" "I wouldn't, except for some differnt (different) games" "to have more time in tutoring the child & more time to read to him I've injoyed (enjoyed) it very much with Tony." "I would make it the sane (same) as the whay (way) we had it" "I wouldn't" "no way" "Have longer times at one day."		The tutees were not asked this question.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The study reported here was a quasi-experimental study designed to examine the effects of tutoring using unpaid school-age tutors who had behavior and/or achievement problems. The purpose of the study was to investigate the hypothesized benefits of tutoring to both tutor and tutee as measured by reading tests, grades, behavior evaluation, inventory of interests and attitudes, sociometric choices, and attendance. Secondly, the study was directed toward the recording and development of the mechanics of a tutoring program that could easily be used in the schools.

This study indicated that tutoring benefits tutors by improving their reading scores. It did not indicate that the independent variable tutoring improves the dependent variables of grades, behavior, interests and attitudes, social acceptance, or school attendance.

The study indicated that tutoring benefits tutees by improving their reading scores. It also indicated a change in their grades. It did not indicate that tutoring improves their grades, behavior, interests and attitudes, social acceptance, or school attendance. The study did indicate that tutoring decreases the school attendance of tutees.

Conclusions

Significant differences were found for reading which was the major focus of the tutoring. The other measures (grades, behavior, interests and attitudes, social acceptance, and attendance), which are usually related to reading improvement in the classroom, apparently were not related to reading improvement in the tutoring situation. Tutoring as a process, perhaps, is capable of changing the one thing upon which it focuses. But there may be very little transfer of the tutoring effects except in that one area, reading.

Tutoring has a different format than classroom instruction. For one thing, the benefits suggested by group theory are not present in the tutoring situation. The tutor and tutee can not profit from the knowledge, experiences, skills, and mistakes of their peers as they could in the classroom. Also, the tutee may come to depend upon extrinsic rewards provided by the tutor, whereas the child in the classroom is more apt to turn to intrinsic rewards.

On the other hand, tutoring has the advantages of providing more opportunities for; individualized instruction, immediate feedback, and positive reinforcement than does classroom instruction. Tutoring, more than classroom instruction, is able to provide for Bruner's predispositions to learning (1966). "Instruction must minimize the risks attendant upon exploration [p. 199] ." Tutoring provides an opportunity

in which the tutee can make mistakes with little or no embarrassment. If he asks a strange question, answers incorrectly, or takes a long time to solve a problem, he doesn't have to worry about laughter or comments from his peers. "Instruction seeks to vitiate the effects of previously established constraints on exploration and curiosity [p. 199]." In tutoring, the tutee frequently meets success because the teaching is geared to his knowledge and rate of learning. Each time he succeeds, his confidence increases, his fear of failure lessens. "Instruction must maximize the informativeness of error [p. 199]." In the tutoring situation, the tutor is immediately aware of the child's mistake and is able to offer an explanation. The teacher in the classroom does not have this advantage.

If tutoring is an effective instructional tool to achieve one emphasized goal, (in this study, reading) might alternative approaches have brought about some transfer as well? For example, underachieving boys were used as tutors for tutees who were also underachieving. Did either group have the best model to imitate? If the 7A students had been used as tutors, perhaps there would have been a significant improvement in the tutees' behavior, as well as the improvement in reading. The 7A tutors might have benefited by higher achievement in reading, ease in speech, and increased patience.

Perhaps the underachieving seventh graders might better have been used to tutor the bright, well-behaved third graders instead of the underachieving third graders. The seventh graders would then have had a model for behavior and the bright third graders might have improved in their attitudes toward the less bright third graders. These alternative mixes might have brought about improvement on the other measures (grades, behavior, interests and attitudes, social acceptance, and attendance).

Children must see a relationship in order for transfer to occur. It was fairly obvious to the children in this study that improvement in reading was the major goal. They perceived, in varying degrees, the relationship between the oral language activities and reading. They most likely saw no relationship between tutoring and the minor goals of the study. Andrews and Cronbach (1950) believe that the possibility of transfer should be pointed out to the child. What might have been the result if the possibility of transfer from these minor goals had been pointed out to the children? For example, "Being a good listener in the tutoring situation will help you to be a good listener in the classroom".

Recommendations

Further research should attempt to measure the differences between classroom instruction and tutoring. Does a child learn better in a group setting or in a dyad? What does a child learn better in a group? What does a child learn better in a dyad? Future research should focus on ways to increase the transfer of tutoring effects. The children in this study usually behaved during the tutoring situation. Why wasn't the transfer to the classroom situation significant? What tutoring arrangements will increase transfer?

Tutoring should be an integral part of the organization of a school for its own value and also because its use will help to bring about improvements such as individualized instruction and nongradedness. Tutoring points up the importance of giving children more respect and responsibility.

Following are the investigator's opinions concerning the operation of a tutoring program. Tutors should be at least a grade or level above the tutees. This precaution helps to lessen the feelings of inadequacy on the part of the tutees more so than if peers were used. The frequency and duration of the tutoring sessions should be limited in order to maintain a high level of interest. The sessions should be oral to provide for the greatest amount of interaction. The young teachers must be given preservice training and frequent encouragement

by an adult. However, the actual supervision of the tutoring sessions could be handled by a tutor. In the opinion of the investigator, these are the essentials of a tutoring program.

Hopefully, during the next few years, many experimental and quasi-experimental studies will be carried out to augment the existing information on tutoring.

APPENDIX

Training Session Discussions

Build - up

Discuss with the tutors how much good they will be doing.

Discuss the value of the one to one relationship, the value of oral language to reading, the value of self-confidence, and the value of their youth as compared to using adults as tutors.

Do's and Don't's for the Tutors

Do use his name frequently.

Do use praise often.

Do help him in any school subject if he asks.

Don't scold.

Don't be bossy.

Don't try to "top" him if he tells you about exciting TV shows or you might scare him.

Don't try to "top" him if he tells you about some dangerous stunts or you might put new ideas in his head.

Don't laugh about him outside to friends. Child might think that you were making fun of him.

Role-play

Tutoring situations, particularly negative reactions on the part of the tutee.

Practice asking questions that cannot be answered by just "Yes" or "No". (Not, "Do you like school?", but, "What do you like in school?".)

Oral Language Games

Numbers correspond to numbers in the tutors' notebooks so that the tutors can indicate games played by numbers rather than by title.

1. Greet child. Talk over events of past week.

2. "Echo" word. Teach a new word each time. Child is to recall echo word at following session.

3. Read to child not longer than six minutes.

4. Alphabet game - List letters of the alphabet on magic slate. Choose a topic such as names of cars. Child is to name a car and indicate where it would be listed in the alphabet. See how many points the child can earn.

5. Unfinished sentences - If I could meet anyone in the whole world, I would like to meet _____ because _____.

   If I could have any kind of a pet, I would like to have a ____ because_____.

   If I had a chance to visit any place in the world, I would like to go _____ because _____.

6. Four objects - You are given four objects, a science book, an arithmetic book, a reading book, and a social studies book. You may keep only three. Which would you give back and why? Any four objects may be used.

7. Categories - List four headings on the magic slate such as Boy's Name --TV Show--Food--City. Choose a letter of the alphabet. See if the child can give an answer for each column which begins with that letter. Use different letters of the alphabet. Keep score.

Oral Language Games -- Continued

8. Adjectives - This room is _____. My shoes are _____.
This room is _____. My shoes are _____.
This room is _____. My shoes are _____.

9. Round robin story - Tutor starts a story. Child gives next line. Tutor supplies the next line, and so on.

10. Longer sentences - I have a dog. I have a big dog. I have a big dog who likes to run. I have a big dog who likes to run in the field. I have a big dog who likes to run in the field in back of my house.

11. News items - Who? When? Where? What? (Why?)

12. Discuss commercials.

13. Tall Tales - Tutor should make up a tall tale. Then ask the child to make one up.

14. Alliteration - Sentences made up of words which start with the same sound. The train trip took too long. Both boys bought black boots.

15. Stories from one word - Tutor gives the child a word. He has to make up a story about the word. Then the child may give the tutor a word.

16. Situations - What would you do if you dropped a dish in the lunchroom? What would you do if you found a dollar bill in school?

17. How to play a game - Tutor tells the child how to play a game, such as hockey. Then perhaps the child will tell the tutor how to play a game.

18. If - Name four things that might happen if cars could fly. Name four things that might happen if we had four feet.

Oral Language Games -- Continued

19. Riddles - Exchange riddles.

20. Uses - How many uses can you think of for a piece of paper? How many uses can you think of for a tin can?

Some of these ideas were taken from the booklets - Youth Tutoring Youth by the National Commission on Resources for Youth, Inc. (1969) and Primer for Perception by Goldszer (1968).

Behavior Evaluation
by teacher

S - Satisfactory

N - Needs improvement

Name of child	Is kind	Is polite	Conforms to routine	Practices self-control
1.				
2.				
3.				

Inventory of Interests and Attitudes

Name_____Grade_____

1. What do you like to do when you are not in school?

2. When you have some money, what do you usually use it for?

3. What are your favorite TV programs?

4. What TV programs do you dislike?

5. What would you like to do when you grow up?

6. What do you like in school?

7. What do you dislike in school?

8. If you were on an island for a long time with a few other people, would you help to organize a school? Why?

Sociometric Choices

1. If you had to do a special assignment in school and could choose one classmate to work with you, who would you choose?

2. If your room had to choose one person to represent the class, who would you choose, other than yourself?

Please do not choose the same person for both questions.

Questionnaire for Tutors

1. Did you like being a tutor?

2. Would you like to be a tutor next year?

3. What did you like the most?

4. What did you like the least?

5. How would you change SPI?

Questionnaire for Tutees

1. Did you like having an older boy work with you?

2. Would you like to have an older boy work with you next year?

3. What did you like best?

4. What did you like least?

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